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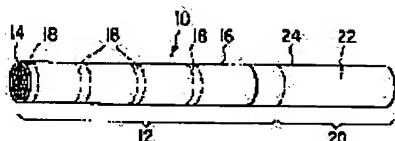
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**(54) CIGARETTE****(57)Abstract:**

**PROBLEM TO BE SOLVED:** To produce a cigarette containing rolled paper coated with a flavor producing material, excellent in retaining stability of a flavor component without emitting an unpleasant taste or odor and readily emitting the flavor component by combustion.

**SOLUTION:** This cigarette is obtained by coating rolled paper (16) wrapping a tobacco filler (14) with a powder of a flavor producing material capable of including a flavor component holding unit including a thermally irreversibly gelled thermally irreversibly coagulable glucan and a flavor component held in the holding unit without emitting a sufficient amount of the flavor component until the flavor producing material burns in the form of a belt (18).

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**DETAILED DESCRIPTION**

[Detailed Description of the Invention]

[0001]

[Field of the Invention] this invention relates to a cigarette and relates to the cigarette with which flavor generating material was applied to the rolled letter paper which wraps a rod-like tobacco filler entirely especially.

[0002]

[Description of the Prior Art] A cigarette mainly uses the dry matter of leaf tobacco as smoking material, by burning this, the smoking goods which taste a flavor through Homo sapiens's taste and the sense of smell are typical, it is the purpose which improves the flavor, and the flavor generating material which contained the flavor component from the former is used.

[0003] For example, the technology of making predetermined flavor generating material mixing in a tobacco filler, or making it mixing into rolled letter paper, and improving a tobacco flavor is indicated by JP,5-146285,A and JP,5-320097,A. Especially, applying flavor generating material to rolled letter paper is also indicated by the former official report. When applying flavor generating material to rolled letter paper, compared with the case where flavor generating material is made to mix in a tobacco filler or rolled letter paper, it is considered that there is an advantage that it is easy and the amount used can also be reduced to adjust the timing of generating of the flavor from the flavor generating material by combustion.

[0004] However, when the smoking goods (cigarette) which contain the conventional flavor generating material deficiently in the maintenance stability of a flavor component therefore as for the conventional flavor generating material are saved for a long period of time, they are in the inclination a flavor component not only vaporizes, but that it cannot carry out a smoking Nakayasu law and cannot taste a flavor. Moreover, flavor generating material also needs not to generate unpleasant taste and smell by combustion etc.

[0005]

[Problem(s) to be Solved by the Invention] this invention tends to improve the cigarette which applies flavor generating material to the rolled letter paper which wraps a rod-like tobacco filler entirely, and adjusts the flavor of tobacco. That is, this invention is excellent in the maintenance stability of a flavor component, and does not generate unpleasant taste and smell, but makes it a technical problem to offer the cigarette which applied to rolled letter paper the flavor generating material which moreover diffuses a flavor component easily by combustion.

[0006]

[Means for Solving the Problem] this invention aimed at solution of the above-mentioned technical problem by using the heat irreversible freezing characteristic glucan holding a flavor component gelled in heat irreversible as a supporter. That is, this invention is a cigarette which has the tobacco column section which consists of rolled letter paper which wraps a rod-like tobacco filler and this tobacco filler entirely, includes the flavor component held at the flavor component supporter and this supporter which include the heat irreversible freezing characteristic glucan gelled in heat irreversible on rolled letter paper, and offers the cigarette characterized by to apply the flavor generating material which diffuses the flavor component of an amount enough for the first time by combustion.

[0007] In the desirable mode of this invention, flavor generating material carries out heating gelling, and obtains the mixture which blended the flavor component with the non-gelled heat irreversible freezing characteristic glucan. Gelling of a glucan is usually \*\*\*\*\* under un-existing [ of a gelling agent ]. Moreover, as a glucan to be used, curdlan is desirable.

[0008] In this invention, what also has the hydrophobic thing of a hydrophilic property, or its combination is sufficient as a flavor component. When a flavor component contains a hydrophobic flavor component, flavor generating material can contain the oily solvent of a hydrophobic flavor component. This oily solvent may be an inside chain saturated fatty acid triglyceride. As for this flavor generating material, it is desirable to contain an emulsifier. Furthermore, in addition to a hydrophobic flavor component, a flavor component can also contain a hydrophilic flavor component in this case.

[0009] In another mode of this invention, flavor generating material can contain the flexibility grant agent which includes polyhydric alcohol or a saccharide. In addition, as an application gestalt of flavor generating material, the gestalt of two or more annular bands mutually estranged to the peripheral surface of rolled letter paper, the gestalt of the band prolonged in the shaft orientations of the tobacco column section, or the gestalt applied to the lap section of rolled letter paper is included. The powder of flavor generating material is usually applied to rolled letter paper with a binder, and, generally the particle size is 10 or 200 micrometers.

[0010] The flavor generating material of this invention which consists of heat irreversibility gel of the above-mentioned glucan fixes and holds a flavor component firmly under the usual preservation conditions, and diffuses sufficient flavor component easily by combustion (namely, generating of :flavor component which diffuses the flavor component of an amount enough for the first time by combustion). And the flavor generating material of this invention does not generate unpleasant taste and smell by combustion.

[0011]

[Embodiments of the Invention] Hereafter, the gestalt of operation of this invention is explained in detail. The cigarette of this invention has the tobacco column section which consists of rolled letter paper which wraps a rod-like tobacco filler and this tobacco filler entirely, and the powder of the flavor generating material of this invention is applied on rolled letter paper.

[0012] Although this invention persons are excellent in the maintenance stability of the flavor component under the usual preservation conditions The result studied wholeheartedly that the flavor generating material which the flavor component of an amount is enough diffused [ material ] easily by combustion, and moreover does not generate unpleasant taste and smell by combustion should be developed, It found out that the desired end could be attained by using heat irreversibility gel of a heat irreversible freezing characteristic glucan like beta-1 and 3-glucans, such as curdlan, as the supporter of a flavor component. After making a glucan gel, the retentivity of a flavor component became high, when the flavor component was blended with the glucan before making a glucan gel by heating as a result of inquiring furthermore, the diffusion durability of the flavor component by combustion is very high, and the bird clapper was found rather than it added a flavor component to this. That is, if a flavor component is blended with a glucan before gelling and a glucan is made to gel after an appropriate time, a flavor component will be incorporated inside the three-dimensions network structure of a glucan molecule, and will be fixed and held more firmly.

[0013] The glucan used by this invention is known in itself. For example, for the curdlan most preferably used in this invention, D-glucose molecule is beta at the one to 3rd place. - It is beta-1 of the straight chain which carried out the glycoside linkage, and 3-glucan, and it is water-insoluble nature and has the property to be insoluble, in almost all organic solvents. And the glucan is safe for a human body (for example, mixing beta-1, such as curdlan, and 3-glucan with the water-soluble-polymer matter, and manufacturing an edible film is indicated by JP,1-289457,A). The glucan is usually marketed with the powdered gestalt.

[0014] If beta-1 and 3-glucan heat the underwater distribution liquid to gelling critical temperature (it is the temperature of 80 degrees C or more if it is in curdlan), it gels, and this gel will not be fused even if it heats this again (that is, it is heat irreversibility gel).

[0015] Although the heat irreversibility gel of heat irreversible freezing characteristic glucans, such as such beta-1 and 3-glucan, fixed and held the flavor component firmly, this invention persons found out not generating the matter which checks flavors, such as an unpleasant stimulus, a pungent condiment, and a fiber smell, by combustion while diffusing the flavor component easily by combustion.

[0016] As for the flavor component used for the flavor generating material of this invention, it is desirable that they are a liquid or a solid-state (the shape of namely, non-gas) at the temperature at the time of preparing the underwater dispersing element of the heat irreversible freezing characteristic glucan described below, and especially if it is the flavor component for which Homo sapiens's taste is satisfied through the taste and the sense of smell, it will not be restricted. A hydrophilic property and any hydrophobic flavor component can be used. When the example is given, as a hydrophilic flavor component leaf tobacco extraction extractives and natural vegetable property perfume (for example,

a licorice and St John's bread --) acids (for example, a malic acid and a tartaric acid --), such as Prunus-salicina extractives and peach extractives A citric acid etc. has saccharides (for example, a glucose, a fructose, isomerized sugar, etc.) and nicotine salts (for example, citric-acid nicotine etc.). as a hydrophobic flavor component Tobacco powder, menthol, cocoa (powder, extractives, etc.), ester, and natural essential oil (for example, an isoamyl acetate, a linalyl acetate, a propionic-acid isoamyl, butanoic acid linalyl, etc.) (as a vegetable property) For example, vanilla extract, a spearmint, peppermint, a cassia, a jasmine, etc.; musk, umber, a civet, dregs thorium, etc. have simple substance perfume (for example, an anethole, a limonene, a linalool, an eugenol, etc.) as animality. These flavor component is independent or can be used combining two or more sorts.

[0017] The concentration can be adjusted arbitrarily that the concentration of the flavor component in the flavor generating material of this invention should just be concentration sufficient when flavor generating material is burned to satisfy Homo sapiens's taste through the taste and the sense of smell. More specifically, in the last flavor generating material, 20 % of the weight of flavor components does not have a ultralow volume, and they exist at 5 or 10% of the weight of a rate preferably.

[0018] Now, in order to manufacture the flavor generating material of this invention, high-speed churning of the glucan which is usually in a powdered gestalt is carried out underwater first, and a dispersing element (glucan slurry) is obtained. It is desirable to perform manufacture of this dispersing element by churning by the mixer under 20 or the temperature of 30 degrees C. Thereby, the stable underwater dispersing element of a glucan is obtained. If glucans, such as curdlan, have many amounts made to distribute underwater, the viscosity of a slurry will become high and it will become difficult to form the slurry which is easy to deal with it. When preparing especially flavor generating material in the shape of a sheet, among an underwater dispersing element, as for curdlan, it is desirable that it is in 1 or 20% of the weight of concentration, and it is most desirable that it is in 3 or 5% of the weight of concentration.

[0019] In the gestalt of desirable operation of this invention, a desired flavor component is added at a desired rate to the underwater dispersing element of a glucan, and it mixes to it. In that case, when a flavor component is hydrophobic, it is desirable to dissolve a hydrophobic flavor component in the oily solvent (for example, vegetable fat and oil or a saturated fatty acid triglyceride) as the solvent preferably with the emulsifier (for example, a glycerine fatty acid ester, sucrose fatty acid ester, a sorbitan fatty acid ester, propylene glycol fatty acid ester, lecithin) known as a food additive, to prepare the melt beforehand, to mix this to a glucan underwater dispersing element, to carry out high-speed churning like the above, and to perform distribution and emulsification. Since almost all the hydrophobic flavor component can be dissolved good and unsaturated fatty acid is not included as an oily solvent of the above-mentioned hydrophobic flavor component, oxidation stability is very high, and since it is hypoviscosity, especially the thing for which an inside chain saturated fatty acid triglyceride (MCT) with easy handling is used is desirable. Moreover, when this is used for an emulsifier, the desirable emulsion by which the flavor component was distributed and held uniformly is formed.

[0020] In case the above-mentioned melt is prepared, you may also blend a hydrophilic flavor component. A hydrophobic flavor component is stabilized by high-speed churning as a detailed emulsion, after dissolving in the above-mentioned oily solvent. Moreover, in hyperviscous glucan distribution liquid, it distributes uniformly and a hydrophilic flavor component is stabilized.

[0021] In the glucan underwater distribution liquid containing a flavor component In order to give flexibility to the sheet obtained and to make ablation from a base material easy Polyhydric alcohol (for example, a glycerol, a propylene glycol, etc.) and/or a saccharide (for example, as a monosaccharide) A glucose, a fructose, etc.; as for a cellulose, starch, etc., it is also desirable as a disaccharide to add the flexibility grant agent containing an aldonic acid, a uronic acid, etc. as an oxidization derivative as; polysaccharide, such as a maltose, a saccharose, and a lactose. Polyhydric alcohol and a saccharide can adjust the flexibility of the sheet obtained by adjusting the ratio of the amount used.

[0022] In this way, the glucan underwater dispersing element containing the component of the obtained flavor component and others is cast in the shape of a thin film sheet on a suitable base material (for example, belt made from stainless steel), after performing defoaming processing under reduced pressure if needed. A glucan carries out stoving of this at the temperature (if it is in curdlan, it is the temperature of 80 degrees C or 140 degrees C) gelled in heat irreversible. Thereby, while moisture is removed to 10%, a glucan serves as heat irreversibility gel, where a flavor component is fixed and held firmly, and the flavor generating material of this invention is obtained. This gelling is performed by only heating and a gelling agent is not used. As stated above, in this invention, heating gelling is presented with a glucan as an underwater dispersing element. If a glucan is used as an underwater dispersing element compared with the case where it uses as an alkaline-water solution, it will not have a bad influence on the flavor of a

flavor component.

[0023] In this way, the flavor generating material of this invention which consists of glucan gel holding the flavor component obtained can exfoliate from a base material easily. In addition, if needed, ablation may be faced, and you may humidify and harmonize glucan gel.

[0024] Although the flavor generating material of this invention hardly diffuses a flavor component under the usual preservation conditions (for example, 22 degrees C, 60% of relative humidity), it has the outstanding property to diffuse a flavor component immediately by combustion, and does not generate unpleasant taste and smell by combustion. The flavor generating material of this invention is safe while it is insoluble in water and insoluble also to almost all organic solvents.

[0025] In addition, as for the amount of each component in the last flavor generating material, it is desirable that it is as follows. The amount of a glucan, especially curdlan does not have 2 and is 10 or 40 % of the weight preferably 70% of the weight. When a glucan exceeds 70 % of the weight, the flexibility of the gel obtained falls and it is in the inclination for formation of gel to become imperfect for it to be less than 2 % of the weight.

[0026] The amount of an oily solvent is 5 or 15 % of the weight preferably 30 or less % of the weight. If it exceeds 30 % of the weight, an oily solvent will cease to be included in glucan gel, and will leak out of glucan gel.

[0027] The amount of an emulsifier is 5 or 15 % of the weight preferably 30 or less % of the weight. If it exceeds 30 % of the weight, an emulsifier will cease to be included in gel and will leak out of glucan gel. [ as well as an oily solvent ] Therefore, as for an oily solvent and an emulsifier, it is desirable not to exceed 30 % of the weight in total, and, as for the ratio of an oily solvent and an emulsifier, 2:1 is the optimal.

[0028] The amount of polyhydric alcohol and a saccharide is the sum total, and is 10 or 30 % of the weight (the saccharide which serves also as a flavor component can be used within the limits of this) preferably 50 or less % of the weight.

[0029] The flavor generating material of this invention can grind this minutely with a hammer mill etc., can be mixed with a usually suitable binder, and can be applied to rolled letter paper. As for the ground flavor generating material (powder), it is desirable 10 or to have 30 or the particle size of 100 micrometers preferably 200 micrometers.

[0030] The rolled letter paper used for the cigarette of this invention is not used for the usual cigarette, and is not restricted especially. What is used as a paste for laps of usual cigarette rolled letter paper as a binder which is mixed with the flavor generating material of this invention, and is used can be used. Such a paste is a paste which makes a principal component an ethylene vinylacetate copolymer (EVA) or a carboxymethyl cellulose (CMC) preferably.

[0031] As for the compounding ratio (weight) of flavor generating material powder and a binder, it is desirable preferably 1:99 or 50:50, and that it is 10:90 or 30:70. In this way, after applying to rolled letter paper the mixture of the flavor generating material and binder which were prepared, as an application side can serve as the inside, a cigarette can be wound up by the conventional method, and the cigarette of this invention can be obtained. Flavor generating material and a binder can be applied with the gestalt of the band which is the gestalt of two or more annular bands mutually estranged to the inner circumference of rolled letter paper, or is prolonged in the shaft orientations of the tobacco column section. Flavor generating material and a binder are most conveniently applied to the lap section of rolled letter paper. As a tobacco filler, the usual tobacco serration, tobacco alternative serration, etc. can be used. In addition, a filter can be given to the cigarette of this invention.

[0032] Drawing 1 is the perspective diagram showing an example of the cigarette of this invention. The cigarette 10 shown in drawing 1 has the same appearance as the usual cigarette with a filter. That is, a cigarette 10 has the tobacco column section 12, and the usual filter 20 is attached in the end. A filter 20 consists of fiber material 22 of a large number which banded together with the plasticizer, has the same path substantially with the tobacco column 12, and is attached in the anchoring paper 24.

[0033] The tobacco column section 12 has the rod-like tobacco serration 14 with which it filled up, and this rod-like tobacco serration 14 is entirely wrapped with rolled letter paper 16. the tobacco column section 12 -- usually -- a periphery (15mm or 27mm) -- having -- the pack density of the tobacco serration 14 -- usually -- 200 mg/cm<sup>3</sup> Or 270mg/cm<sup>3</sup> it is .

[0034] The above-mentioned flavor generating agent powder is mutually applied to the shaft orientations of the column section 12 with the above-mentioned binder at the inner skin of rolled letter paper 16 with the gestalt of two or more annular bands 18 estranged with the interval of 10-20mm. Width of face of each annular band 18 can be set to about 1mm or 8mm, and coating thickness can be set to 10 or 250 micrometers.

[0035] The cigarette shown in drawing 1 can apply and manufacture the stabilization method of \*\*\*\*\* of a cigarette and equipment which were indicated by JP,4-187074,A. That is, a desired cigarette can be easily manufactured by making it make it correspond to the position of the annular band 18 which shows the position of the pasting section to drawing 1 in a method and equipment concerned, and using the mixture of the above-mentioned flavor generating material powder and a binder instead of the paste.

[0036] The cigarette shown in drawing 1 is lit at the nose of cam of the column section 12, the tobacco filler 14 is burned with rolled letter paper 16, and it \*\*\*\* in the filter section 20. Whenever combustion results in the annular band 18, a flavor component is diffused from flavor generating material, and \*\*\*\*\* of the flavor which has impact in whenever [ the ] can be tasted.

[0037] Drawing 2 is the perspective diagram showing other examples of the cigarette of this invention. The cigarette 30 shown in drawing 2 has the same structure as the cigarette shown in drawing 1, except that the application forms of the mixture of flavor generating material powder and a binder differ (therefore, the explanation is omitted in showing the same portion using the same sign as drawing 1). That is, in the cigarette 30, the mixture of flavor generating material powder and a binder is mutually estranged to the inside of rolled letter paper 16, is mutually estranged to the hoop direction of the tobacco column section 12, and it is arranged, and is applied as two or more bands 32 prolonged in the shaft orientations of the tobacco column section 12. In drawing 2, these bands 32 are formed covering the simultaneously overall length of rolled letter paper 16. When this cigarette 30 is smoked, the flavor from flavor generating material can always taste during smoking. In addition, although two or more bands 32 were shown in drawing 2, the number of bands 32 may be one.

[0038] Drawing 3 is the perspective diagram showing other examples of the cigarette of this invention. The cigarette 40 shown in drawing 3 has the same structure as the cigarette shown in drawing 1, except that the application forms of the mixture of flavor generating material powder and a binder differ (therefore, the explanation is omitted in showing the same portion using the same sign as drawing 1). That is, in the cigarette 40, the mixture of flavor generating material powder and a binder is applied to the lap section 42 of rolled letter paper 16. A cigarette 40 blends the flavor generating material powder of this invention with the paste for laps used in case tobacco is wound up using usual rolled letter paper, is obtained by carrying out the lap (adhesion) of the rolled letter paper by the usual method using this, and is very convenient on manufacture. When this cigarette 40 can also be called special form of the cigarette explained about drawing 2 and also smokes this cigarette 40, the flavor from flavor generating material can always taste it during smoking.

[0039] Like, when [ which was described above ] applying flavor generating material to rolled letter paper, compared with the case where flavor generating material is made to mix in a tobacco filler or rolled letter paper, it is easy to adjust the timing of generating of the flavor from the flavor generating material by combustion, and by devising the form of an application shows that the amount used can also be reduced.

[0040]

[Example] Although an example explains this invention below, this invention is not limited to them. Example Menthol 2g and lecithin 2g were dissolved in 1MCT4g, and menthol mixed liquor was prepared. On the other hand, 288g of water is made to distribute 12g of curdlan powder, it agitated to this for 5 minutes, and it was made to have added menthol mixed liquor and to emulsify under conditions with a temperature [ of 25 degrees C ], and a churning rotational speed of 3000 ppm. In this emulsification distribution object, cocoa 8g, sorbitol 6g (it is 15 % of the weight to total composition), and glycerol 6g (it is 15 % of the weight to total composition) were added and agitated under these conditions, and the curdlan slurry was obtained. This slurry was cast in the shape of a sheet so that it might become 0.5 or 1.0mm thickness on the belt made from stainless steel, and it dried at 110 degrees C. Curdlan was gelled in heat irreversible and maintenance fixation of the menthol was carried out to the interior by this dryness. Furthermore, this curdlan sheet was exfoliated from the belt and the flavor generating material sheet of this invention was obtained. The thickness of this sheet was 0.1 or 0.2mm.

[0041] The above-mentioned flavor generating material sheet was saved for 20 days under conditions of the temperature of 22 degrees C, and 60% of relative humidity, and measurement and organic-functions evaluation of menthol concentration were performed. In addition, menthol concentration was measured with the gas chromatography. Consequently, menthol was after progress for 20 days, and remained in the sheet at 95% or more of a rate, and its organic-functions evaluation was also equivalent to preservation before.

[0042] The hammer mill ground this flavor generating material sheet, it mixed with the CMC system binder (weight

ratio 1:4), this was applied to rolled letter paper, and the cigarette of the structure shown in drawing 1 using this application rolled letter paper was manufactured. When this was smoked, shortly after smoking, the scent of flavor components, such as menthol, was generated, and the flavor which has the impact of menthol intermittently through the number of times of a puff which is 10 times was able to be tasted. Moreover, generating of the matter which checks flavors, such as menthol, such as a stimulus originating in the sheet material which makes curdlan a subject at the time of combustion, a pungent condiment, and a fiber smell, was not accepted.

[0043] Example Under the temperature and churning conditions of two examples 1, 288g of water is made to distribute 12g of curdlan powder, licorice 0.5g which is a hydrophilic flavor component was added to this, and it was distributed. In this distributed object, cocoa 8g, sorbitol 6g, and glycerol 6g were added and agitated under these conditions, and the curdlan slurry was obtained. The flavor generating material sheet of this invention which held and fixed the licorice inside was obtained like the example 1 using this slurry.

[0044] The part saved this flavor generating material sheet for 20 days by the shape of a sheet like the example 1, and already, after the part's having ground and applying it to rolled letter paper with a binder, it manufactured the cigarette using this, smoked and has performed organic-functions evaluation, respectively.

[0045] Consequently, the organic-functions evaluation of the sheet was equivalent to preservation before also after preservation for 20 days. Moreover, shortly after smoking, the scent of flavor components, such as a licorice, was generated, and the cigarette was able to taste the flavor which has the impact of a licorice intermittently through the number of times of a puff which is 10 times. Moreover, generating of the matter which checks flavors, such as licorices, such as a stimulus originating in the sheet material which makes curdlan a subject at the time of combustion, a pungent condiment, and a fiber smell, was not accepted.

[0046] Example Spearmint oil 0.1g and lecithin 2g which is a hydrophobic flavor component were dissolved in 3MCT4g, and spearmint oil mixed liquor was prepared. On the other hand, 288g of water is made to distribute 12g of curdlan powder, it agitated to this for 5 minutes, and it was made to have added spearmint mixed liquor and to emulsify under the temperature and churning conditions of an example 1. In this emulsification distribution object, cocoa 8g, sorbitol 6g, and glycerol 6g were added and agitated under these conditions, and the curdlan slurry was obtained. The flavor generating material sheet of this invention which held and fixed spearmint oil inside was obtained like the example 1 using this slurry.

[0047] The part saved this flavor generating material sheet for 20 days by the shape of a sheet like the example 1, and already, the part ground, was applied to rolled letter paper with the binder, manufactured the cigarette using this, smoked, and has performed organic-functions evaluation, respectively.

[0048] Consequently, the organic-functions evaluation of the sheet was equivalent to preservation before also after preservation for 20 days. Moreover, shortly after smoking, the scent of flavor components, such as spearmint oil, was generated, and the cigarette was able to taste the flavor which has the impact of spearmint oil intermittently through the number of times of a puff which is 10 times. Moreover, generating of the matter which checks flavors, such as spearmint oil, such as a stimulus originating in the sheet material which makes curdlan a subject at the time of combustion, a pungent condiment, and a fiber smell, was not accepted.

[0049] Example Spearmint oil mixed liquor was prepared like four examples 3. On the other hand, added spearmint mixed liquor, and agitate to this for 5 minutes, it was made to make 288g of water distribute 12g of curdlan powder, and to emulsify under the temperature and churning conditions of an example 1, and the curdlan slurry was obtained. After heating gradually and removing moisture, agitating this slurry, temperature was made to raise and gel to 110 degrees C. Curdlan was gelled in heat irreversible, and held and fixed spearmint oil in the interior. The vacuum drying of this gel was carried out, the hammer mill ground, and the powdered flavor generating material of this invention was obtained.

[0050] This powdered flavor generating material was mixed with the CMC system binder like the example 1, this was applied to rolled letter paper, and the cigarette of the structure shown in drawing 3 using this application rolled letter paper was manufactured. When this was smoked, shortly after smoking, the scent of spearmint oil was generated, and this cigarette was also always able to taste the flavor of spearmint oil through the number of times of a puff which is 10 times. Moreover, generating of the matter which checks the flavor of spearmint oil, such as a stimulus originating in the sheet material which makes curdlan a subject at the time of combustion, a pungent condiment, and a fiber smell, was not accepted.

[0051] Example Spearmint mixed liquor was prepared like five examples 3. On the other hand, 288g of water is made

to distribute 12g of curdlan powder, it agitated to this for 5 minutes, and it was made to have added spearmint mixed liquor and licorice 0.5g, and to emulsify under the temperature and churning conditions of an example 1. In this emulsification distribution object, cocoa 8g, sorbitol 6g, and glycerol 6g were added and agitated under these conditions, and the curdlan slurry was obtained. The flavor generating material sheet of this invention which held and fixed the spearmint and the licorice inside was obtained like the example 1 using this slurry.

[0052] The part saved this flavor generating material sheet for 20 days by the shape of a sheet like the example 1, and the part has already ground. This ground flavor generating material was applied to rolled letter paper with the binder like the example 4, and the cigarette of the structure shown in drawing 3 was manufactured, and it smoked.

[0053] Consequently, the organic-functions evaluation of the sheet was equivalent to preservation before also after preservation for 20 days. Moreover, shortly after smoking, the scent of flavor components, such as spearmint oil and a licorice, was generated, and the cigarette was always able to taste the flavor of a flavor component through the number of times of a puff which is 10 times. Moreover, generating of the matter which checks flavors, such as spearmint oil, such as a stimulus originating in the sheet material which makes curdlan a subject at the time of combustion, a pungent condiment, and a fiber smell, and a licorice, was not accepted.

[0054] Example of an experiment Menthol mixed liquor was prepared like one example 1. Under the temperature and churning conditions of an example 1, menthol mixed liquor was added, it agitates for 5 minutes, and 288g of water is made to distribute 12g of curdlan powder, and this was distributed [ it emulsified and ]. Sorbitol 4g (it is 10 % of the weight to total composition) and glycerol 8g (it is 20 % of the weight to total composition) were added in this emulsification distribution object, 8g of cocoa powder was added further, it agitated on these conditions, and the curdlan slurry was obtained. The flavor generating material sheet of this invention was obtained like the example 1 using this slurry.

[0055] The flavor generating material sheet of this invention was obtained like the above except having changed the amount of 8g (it is 20 % of the weight to total composition), and a glycerol into 4g (it being 10 % of the weight to total composition) for the amount of a sorbitol.

[0056] When these sheets were compared with the sheet obtained in the example 1 about flexibility, the flexibility of a sheet increased [ the sorbitol / glycerol weight ratio ] at 10/20 of cases, the elastic soft sheet was obtained, when the ratio was 20/10, the flexibility of a sheet fell, and the stiff sheet was obtained. As a result of examining many things about these sheets, it became clear that the sheet with which a sorbitol / glycerol weight ratio tends to exfoliate in 15/15 of cases, and has the optimal flexibility in them is obtained.

[0057]

[Effect of the Invention] The cigarette which applied to rolled letter paper the flavor generating material which was described above, and which is [ like ] excellent in the maintenance stability of a flavor component according to this invention, and does not generate unpleasant taste and smell, but moreover diffuses a flavor component easily by combustion is offered. The timing of generating of a flavor can also be adjusted by devising the application gestalt of flavor generating material.

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**CLAIMS**

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[Claim(s)]

[Claim 1] The cigarette characterized by applying the powder of flavor generating material which is the cigarette which has the tobacco column section which consists of rolled letter paper which wraps a rod-like tobacco filler and this tobacco filler entirely, includes the flavor component held at the flavor component supporter and this supporter which include the heat irreversible freezing characteristic glucan gelled in heat irreversible on this rolled letter paper, and diffuses the flavor component of an amount enough for the first time by combustion.

[Claim 2] The cigarette according to claim 1 with which flavor generating material carries out heating gelling, and obtains the mixture which blended the flavor component with the non-gelled heat irreversible freezing characteristic glucan.

[Claim 3] The cigarette according to claim 1 or 2 whose glucan is curdlan.

[Claim 4] The claim 1 in which a flavor component includes a hydrophilic flavor component, or the cigarette of three given in any 1 term.

[Claim 5] The claim 1 in which a flavor component includes a hydrophobic flavor component, or the cigarette of three given in any 1 term.

[Claim 6] The cigarette according to claim 5 whose flavor component is menthol.

[Claim 7] The cigarette according to claim 5 or 6 with which flavor generating material contains the oily solvent of a hydrophobic flavor component.

[Claim 8] The cigarette according to claim 7 whose oily solvent is an inside chain saturated fatty acid triglyceride.

[Claim 9] The cigarette according to claim 7 or 8 with which flavor generating material contains an emulsifier.

[Claim 10] The claim 5 in which a flavor component also includes a hydrophilic flavor component, or a gap of 9 or a cigarette given in 1 term.

[Claim 11] The claim 1 in which flavor generating material contains the flexibility grant agent which includes polyhydric alcohol or a saccharide, or the cigarette of ten given in any 1 term.

[Claim 12] The claim 1 by which gelling is performed to the bottom of un-existing [ of a gelling agent ], or the cigarette of 11 given in any 1 term.

[Claim 13] The claim 1 applied to the peripheral surface of rolled letter paper with the form of two or more annular bands which flavor generating material estranged mutually, or the cigarette of 12 given in any 1 term.

[Claim 14] The claim 1 applied to rolled letter paper with the form of the band with which flavor generating material is prolonged in the shaft orientations of the tobacco column section, or the cigarette of 12 given in any 1 term.

[Claim 15] The claim 1 by which flavor generating material is applied to the lap section of rolled letter paper, or the cigarette of 12 given in any 1 term.

[Claim 16] The claim 1 by which the powder of flavor generating material is applied to rolled letter paper with the binder, or the cigarette of 14 given in any 1 term.

[Claim 17] The claim 1 in which the powder of flavor generating material has 10 or the particle size of 200 micrometers, or the cigarette of 16 given in any 1 term.

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[Translation done.]